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Pithecanthropus erectus eine menschenähnliche Übergangsform aus Java von Eug. Dubois, Militärarzt der niederländisch-indischen Armee mit zwei Tafeln und drei in den Text gedruckten Figuren. Batavia Landesdruckerei, 1894, 39 p. 4to.

Between 1889 and 1893, by the order of the Governor-General of Dutch India, palæontological researches were made by Dr. Eugen Dubois, in Sumatra and Java. The result was a good collection of Pleiocene and Pleistocene vertebrates. The most important find consisted of portions of an anthropoid form, which is considered the missing link between the Simiidæ and Hominidæ. The remains consisted of the upper portion of a skull (similar in preservation to the well-known Neanderthal skull) a third upper molar, and the left femur, which were found near Trient, on the Isle of Java. The history of the find is this: In the left bank of the river Bengawan, about 1 m. below the watermark of the dry season, 12–15 m. below the eroded level, the molar was found in September, 1891. One month afterwards, in the same level, at a distance of 1 m., the cranium was found, and in August, 1892, 15 m. further up the river, and again, in the same horizon, the femur was brought to light. Dr. Dubois considers these remains as the parts of one individual.

The name *Pithecanthropus erectus* is given to the fossil. This name had already been used by Professor Haeckel in 1868 in his "Natürliche Schöpfungsgeschichte" for a hypothetical anthropoid, who walked upright, was mentally more developed than the anthropoid apes, but without language.

Pithecanthropus is placed by Dubois in a special family, *Pithecanthropidæ*, between the Simiidæ and Hominidæ with the following character:

"Brain cavity, absolutely and relatively, much larger than in the Simiidæ, but smaller than in the Hominidæ. Capacity of cranium about two-thirds of the average capacity of man. Inclination of cervical portion of occipital bone much stronger than in the Simiidæ; dentition in reduction, but of the pattern of the Simiidæ. Femur similar to that of man in its dimensions, and constructed for erect walking."

Dr. Dubois gives a table of the different values of the cranial capacity in the Simiidæ and man, and reaches the conclusion that the capacity of *Pithecanthropus* is over 1000 cubic centimeters, or over two-thirds of a human cranium of more than average size.

The femur is 455 mm. long, and in nearly every respect like that of man; slight differences are only seen in the absence of an Angulus medialis, in the slight development of the Planum popliteum and the Linea obliqua, and in the concave form of the Crista intertrochanterica. The corresponding size of man, with a femur of 455 mm. is given as 170 cm.

The important question, of course, is asked: Is the material at the disposition of Dr. Dubois sufficient to sustain the conclusions so confidently expressed. We know that the capacity of the normal human cranium varies from 1000–1800 cubic centimeters; *Pithecanthropus*, with a capacity of over 1000, is not necessarily excluded from this series. In regard to the femur it is questionable whether the distinctive characters given by Dr. Dubois hold good, if a great number of human femora is examined; besides, the femur shows an extensive exostosis in the upper half. The evidence brought forward by Dr. Dubois certainly does not seem sufficient for the establishment of a new genus and family, forming the missing link between the Simiidæ and Hominidæ. The publication of the fauna contemporary with *Pithecanthropus* is looked for with much interest.

G. BAUR.

The Fins of Ichthyosaurus.

As far back as 1838 Owen[1] had noticed the fact that nearly all the specimens of Ichthyosaurus from the English Lias showed a dislocation in the tail-vertebræ. This dislocation or bend was found at the posterior one-third of the tail, generally about the thirtieth caudal vertebra in the *Ichthyosaurus communis;* the terminal portion continued, after the bend, almost as straight as the portion of the tail preceding it. From this Owen reached the conclusion that Ichthyosaurus possessed a terminal tegumentary and ligamentous vertical caudal fin. By the weight of this fin, or by the force of the waves beating upon its extended surface, the break of the tail was produced. In the restaurations of Ichthyosaurus the tail was figured unbroken, with a caudal fin extending symmetrically above and below in a vertical plane, and ending in a point at the end of the vertebral column.

[1] OWEN, R.: Note on the dislocation of the tail at a certain point observable in the skeleton of many Ichthyosauri. Trans. Geol. Soc., 2d Ser., Vol. V., pp. 511–514, pl. 42.